Transportation Safety Board of Canada

Bureau de la sécurité des transports du Canada

MARINE INVESTIGATION REPORT
M06C0061

BOTTOM CONTACT AND STRIKING

BULK CARRIER *SENECA*
ASSISTED BY TUGS *JERRY G* AND *ESCORTE*
OSHAWA, ONTARIO
13 OCTOBER 2006

Canada

Marine Investigation Report

Bottom Contact and Striking

Bulk Carrier *Seneca*
Assisted by Tugs *Jerry G* and *Escorte*
Oshawa, Ontario
13 October 2006

Report Number M06C0061

Summary

At 0732 Eastern daylight time on 13 October 2006, the bulk carrier *Seneca*, with a pilot aboard and assisted by the tugs *Jerry G* and *Escorte*, attempted to depart Oshawa Harbour in a strong breeze/near gale, whereupon it ran over two navigation buoys before making bottom contact and striking the eastern seawall at the harbour entrance.

Ce rapport est également disponible en français.

Other Factual Information

Particulars of Vessels

Name of Vessel	*Seneca*	*Jerry G*	*Escorte*
IMO*/Official Number	8200486*	312477	817103
Port of Registry	Valletta	Montreal	Montreal
Flag	Malta	Canada	Canada
Type	Geared bulk carrier	Tug	Tug
Gross Tonnage	17 822	201.99	120.05
Length [1]	185 m	27.95 m	25.79 m
Draught	Forward: 3.93 m Aft: 6.39 m	Forward: 2.13 m Aft: 3.8 m	Forward: 1.82 m Aft: 3.35 m
Built	1983, Setoda, Japan	1960, Lauzon, Canada	1967, Oyster Bay, U.S.A.
Propulsion	Hitachi 7-cylinder B&W diesel, 6833 kW, single screw	EMD diesel 1118 kW, single screw	2 x Detroit diesel V-12, 1271, 956 kW, Voith-Schneider propulsion systems
Cargo	Steel pipes	n/a	n/a
Crew	24	2	2
Registered Owner	Olympic Navigation Co., Marshall Islands	Le Groupe Océan Inc.	Ocean Remorquage Trois-Rivières, Inc.
Manager	Amalthia Marine, Inc., Greece	Oceans Ontario Towing, Canada	Oceans Ontario Towing, Canada

[1] Units of measurement in this report conform to International Maritime Organization standards or, where there is no such standard, are expressed in the International System of units.

Description of Vessels

The geared bulk carrier *Seneca* (see Photo 1 and Photo 2), formerly the *Stokmarnes, Millenium Eagle,* and the *Mangal Desai*, typically delivers steel to Great Lakes ports and leaves with grain for overseas. As with most bulk carriers, when in light loading condition, the vessel presents a significant wind surface area.

Photo 1. The bulk carrier *Seneca*

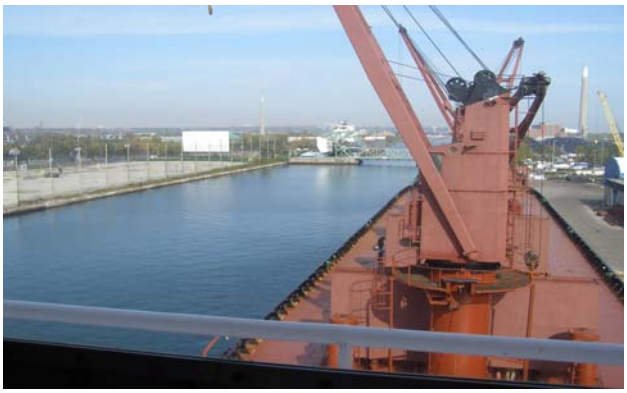

Photo 2. The *Seneca* (forward view from bridge)

The *Jerry G* (see Photo 3) is a conventional tug with a single-screw, Kort-nozzle, variable-pitch propeller and is assigned mostly to harbour berthings and unberthings.

Photo 3. The tug *Jerry G*

Photo 4. The tug *Escorte*

The tug *Escorte* (see Photo 4) is a smaller conventional tug. The *Escorte* is also assigned mostly to ship berthings and unberthings. It is equipped with twin Voith-Schneider propulsion systems. The propellers are located slightly ahead of midships for maximum efficiency. Regardless of the different propulsion systems, both tugs maximize their towing power when using a stern towing arrangement.

History of the Voyage

On 12 October 2006, the *Seneca* discharged approximately 9904 tonnes of steel bundles at the Oshawa marine terminal, leaving 4392 tonnes bound for Toronto, Ontario. The vessel finished unloading and at 2200 [2] was waiting for a pilot. Due to the reduced amount of cargo on board, the *Seneca* was high out of the water and as a result had a significant wind surface area.

On the morning of October 13 at 0430, a pilot was driven from Hamilton, Ontario, to Oshawa to board the *Seneca*. At 0555, the pilot boarded the *Seneca* and proceeded to the bridge to prepare for departure from Oshawa. Following a discussion with the master, it was decided to delay the departure for an hour to await daylight. All the manoeuvring machinery and equipment was tested and found to be working satisfactorily.

At 0645, the master and pilot agreed to a departure plan incorporating two assisting tugs, the *Jerry G* and *Escorte*. At this time, winds were as forecasted and estimated to be at 12 to 15 knots from the southwest.

At 0650, the *Seneca* had a towline connected from the port shoulder to a bow towing securing arrangement of the *Jerry G*. The *Escorte* had a towline from the *Seneca* centre stern connected to its stern towing securing arrangement.

At 0700, winds had increased to 20 to 25 knots. Concerned, the tug master of the *Escorte* informed the pilot via very high frequency (VHF) radiotelephone of this change. At this time, an Oshawa Harbour port security camera was able to capture images of whitecaps coming off the top of the waves outside of the harbour, in Lake Ontario.

At 0705, the *Escorte* was reporting wind speeds gusting to 35 knots. The *Seneca*'s master also reported wind speeds above 30 knots, but the pilot indicated that the departure should proceed and the master acquiesced. As of 0707, the bridge team was comprised of the pilot, the master, a wheelsman, and a watchman. The mooring lines were let go at 0707 and the tugs began towing the *Seneca* away from the terminal dock. After the *Seneca* was towed approximately 4 to 5 m, it was allowed to drift back to the dock.

The pilot asked the forward tug, the *Jerry G*, to reconfigure its towline in order to tow from its stern. At 0722, the *Seneca* was again towed away from the dock.

At 0726, near mid-channel, the tugs were let go, at which time the *Seneca* had very little forward speed. The investigation was unable to determine who initiated this action.

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[2] All times are Eastern daylight time (Coordinated Universal Time minus four hours).

The *Seneca* began to move ahead under its own power, heading out of the harbour via the confined [3] waters of the channel. The tugs were escorting the *Seneca* on its starboard side. However, it developed a rapid set to the east under the influence of the wind and, without sufficient speed to maintain course, began to drift towards the channel buoys MV12 and MV10 on its port side. Approaching the harbour entrance, the pilot ordered the engine astern to slow the vessel down to reduce the impact of a potential grounding.

At 0729, buoys MV10 and MV08 disappeared under the *Seneca*'s port quarter and port forward area of the ship's side. The same buoys reappeared a short time later. At approximately the same time while transiting the harbour entrance, the *Seneca*'s port shoulder made bottom contact with the eastern side of the entrance. Simultaneously, the tug *Jerry G* was ordered to the port bow of *Seneca* to begin pushing at the port bow in an attempt to prevent the vessel from running aground. The remaining forward motion of the *Seneca* moved the vessel to a point about midway through the harbour entrance.

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[3] The *Seneca* had a breadth of 23.1 m. The channel narrows to approximately 73 m at its halfway point.

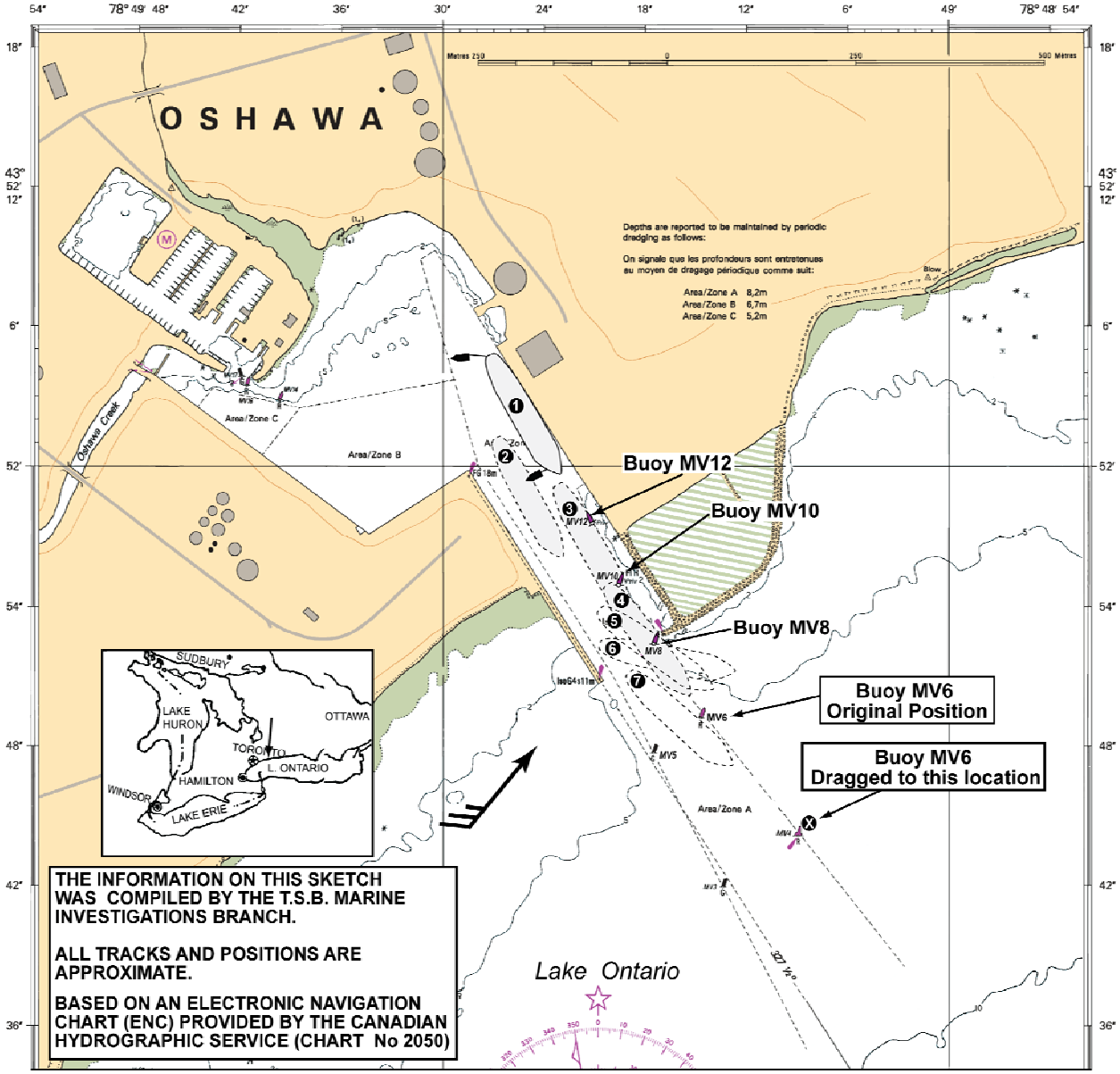

Figure 1. *Seneca's* movement (positions 1 to 7)

At 0732, the wind set the *Seneca* against the east harbour entrance where it made contact with the eastern seawall just aft of its midship's section. At this time, the tug *Escorte* reconnected a towline to the *Seneca*'s centre stern and began pulling, while the *Jerry G* continued to push on the port bow. The stern section swung into a position which blocked the harbour entrance for the next 6 to 7 minutes (see Figure 1).

At 0740, the combined power of the *Seneca* and the tugs freed the vessel from its position. As the bulk carrier moved forward with the *Jerry G* pushing on its port bow, buoy MV6 fouled the tug's steering mechanism. This tripped the circuit breakers of the *Jerry G*'s steering system and caused the rudder to briefly fail. The breakers were quickly reset and the tug continued pushing.

As the vessels progressed into the channel, buoy MV6 was dragged approximately 195 m and came to rest near outer buoy MV4. (see Photo 5). Buoy MV6 was significantly damaged.

Photo 5. Spar buoy MV6, located near MV4

At 0744, the *Seneca* cleared the harbour channel. Instead of proceeding to Toronto to unload the remaining cargo, the *Seneca* proceeded to calling-in point number 15 in Lake Ontario, near Port Weller, Ontario, to await better weather. All the vessel's tanks were sounded and found to be dry with no apparent damage.

Personnel

Bulk Carrier Seneca

The master has a Foreign-Going Master's certificate issued in Odessa, Ukraine, in 2003. Since 2005, he has made five trips into the Great Lakes.

The pilot had five years of experience on the Great Lakes, notably in District 1, Lake Ontario. He was given frequent vessel-movement assignments at the ports of Hamilton, Toronto, and Oshawa.

Tug Jerry G

The master of the *Jerry G* has a Master, Limited Certificate with a continued proficiency endorsement, issued on 30 May 2002. He operated tugs mostly in the lower Great Lakes ports. He has approximately 50 years of experience with tugs; for approximately 35 of those years, he served as a master of fishing vessels and conventional commercial tugs.

Tug Escorte

The master of the *Escorte* has a Master, Ship of Not More Than 350 Tons Gross Tonnage, or Tug Certificate. He has about 20 years of experience as a master of tugs on the Great Lakes and the east coast of Canada.

Communications

The master was comfortable with the limited verbal interaction between the pilot, himself, and the tug masters.

The *Seneca*, *Jerry G*, and *Escorte* communicated on channel 10 VHF radio. Communications were limited to brief messages, typically from the pilot to the tug masters, indicating the towing locations to be used.

Weather

The weather in the Oshawa area was reportedly different than forecasted. The past weather data for Toronto for 13 October 2006 showed a wind direction of southwest at 23 knots.

Damage

The *Seneca* did not suffer any apparent damage. The *Jerry G* suffered some minor damage to its steering system electrical components. Spar buoy MV6 was significantly damaged and needed to be replaced.

Findings as to Causes and Contributing Factors

1. Despite the rapidly deteriorating weather conditions, the master and pilot decided to depart Oshawa Harbour.

2. The tugs were released before the *Seneca* had sufficient headway to maintain a proper course through the channel.

3. The vessel made bottom contact and struck the eastern seawall entrance at low speed as a result of high winds blowing it out of the channel, insufficient manoeuvring space being available, and attending tugs being ineffectively deployed.

Finding as to Risk

1. In view of the deteriorating weather and confined channel, the decision by the master and pilot to depart in a light condition put all three vessels and their crews at increased risk.

Safety Action

Action Taken

Managing Company

Based on its own investigation, the company issued a circular to all fleet vessels titled "Office Standing Instructions No. 36 – Instructions on Suspension of Vessel's Movements" that addressed a proper evaluation by the master of the prevailing weather conditions prior to any vessel's movement in a port and the master's overriding authority to postpone or suspend intended operations, regardless of pilot advice.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board authorized the release of this report on 22 October 2008.

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